

## **REMARKS**

Claims 1-3-11, and 13-23 are pending. Claims 2, 12, and 44-70 are temporarily withdrawn as being directed to a non-elected species, but pursuant to PTO rules will automatically re-enter the application should generic claims be allowed.

### **I. Rejections Over the Prior Art:**

In responding to the Examiner's prior art rejections, Applicant here only justifies the patentability of the pending independent claims (1 and 11). As the Examiner will appreciate, should these independent claims be patentable over the prior art, narrower dependent claims would also necessarily be patentable. Accordingly, Applicant does not separately discuss the patentability of the dependent claims, although it reserves the right to do so at a later time if necessary.

Claims 1 and 11 have been rejected as obvious (35 U.S.C. § 103) by USP 6,538,734 ("Powell").

#### **Claims 1 and 11**

Applicant has amended claims 1 and 11 to further distinguish from Powell. Specifically, Applicant has now specified that the claimed invention comprises "at least one reference gas inlet port for receiving at least one reference gas from at least one reference gas source, wherein the reference gas does not pass through the processing chamber."

This is clearly not disclosed in Powell. Powell is not unambiguous on where his reference gas inlet is positioned. Powell is clear that his reference gas inlet is on his *reaction chamber 101*, and not on his excitation chamber 105 (Fig. 1). See, e.g., claim 71 ("*introducing a known flow of reference gas having a known spectral peak into a reaction chamber*"; sampling gas outside a

reaction chamber *that has passed through the reaction chamber.*”). As a result of where Powell has positioned his reference gas inlet, and as the above quote further proves, Powell’s reference gas must pass through his reaction chamber 101 before it reaches his excitation chamber 105, exactly the opposite of what Applicant now claims. In short, Powell does not disclose the claimed “reference gas inlet” on a plasma chamber (Powell’s excitation chamber) coupleable/coupled to a processing chamber (Powell’s reaction chamber), and further does not meet the limitation that the “reference gas does not pass through the processing chamber.”

Furthermore, and as is relevant to the obviousness rejection, Powell further does not suggest a modification to one of ordinary skill to place a reference gas inlet on his excitation chamber such that the reference gas would not pass through the processing chamber. In justifying the obviousness of such placement for the reference gas inlet, the Examiner considers Powell’s gas analysis technique to not be “limited to a specific form,” and further is of the opinion that Powell does not specify whether his reference gas inlet is on the excitation chamber or the reaction chamber. Office Action at 4. But this is not correct. As just stated, Powell is absolutely explicit that his reference gas inlet is on his *reaction chamber*, not his excitation chamber. See, e.g., claim 71 (“*introducing a known flow of reference gas having a known spectral peak into a reaction chamber*”).

The question then becomes, given Powell’s disclosure of a reference gas inlet on the reaction chamber, would one of ordinary skill in the art have been motivated to have placed the reference gas inlet on Powell’s excitation chamber. The Examiner apparently believes so, but appropriate justification for this conclusion has been given. The Examiner states that it would have been obvious to have included a reference gas inlet port on Powell’s excitation chamber, because “a self contained unit with a dedicated port could be designed for any number or type of

reference gases and could be attached to any processing chamber without any modification to it.”  
Office Action at pg. 3.

But these are exactly the same benefits that Applicant first noted in his Application, meaning the Examiner has engaged in an improper hindsight reconstruction of Applicant’s invention using the stated benefits taken from Applicant’s application. To show this, note that Applicant’s specification makes the point that:

the incorporation of actinometry . . . into the improved ICP chamber 50 has significant benefits. First, ***modification to the processing chamber 10 is not necessary***, reducing potential sources of contamination and necessary maintenance of the chamber 10. Second, the ICP chamber allows for the analysis of gases used in the processing chamber 10 even when those gases are not ionized (e.g., CVD deposition). Additionally, there is no need to introduce actinometry reference gases or probes into the process chamber, which removes factors from the processing chamber which could adversely affect the sensitive processes being run therein.

Applicant’s Specification at ¶ [0033]. To use these benefits as first stated in Applicant’s application as justification to reject Applicant’s claims is unfair, and of course, is legally impermissible. *Cf. Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985) (noting that the rationale for adjudging an invention obvious should come from sources “other than the hindsight gleaned from the invention itself.”).

The fact remains that the evidence of record shows that when the reference gas is input to the processing chamber (i.e., Powell’s reaction chamber 101), “the [reference gas] may interfere with the process that is being run in the processing chamber 10.” Applicant Specification, ¶ [0011]. The evidence of record shows that Applicant was the first to realize this, and in turn to realize the benefits of porting the references gas to a plasma chamber coupleable/coupled to a processing chamber. Such record evidence does not support that Applicant’s invention as recited

in claims 1 and 11 is obvious. When the evidence of record is compared against the Examiner hindsight-influenced conclusion to the contrary, obviously the evidence should prevail.

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Based on the above remarks, Applicant respectfully submits that the pending claims are allowable, and requests that a Notice of Allowance issue for these claims.

Respectfully submitted,

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